In secticidal activity of certain biopesticides

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This present study aimed to evaluate the effect and the insecticidal activity of some bioinsecticides namely spinosad, milbeknock, Dipel-2X and the seed extract of soybean. Another novel structure insecticide known by pleo was also investigated against the 4th instar larvae of the cotton leafworm, Spodoptera littoralis.Data indicated that new the chemical insecticide, pleo applied at the LC50 = 16.84 ?g/ml had the superior insecticidal effectiveness. The pleo recorded the highest percentages mortality of the 4th instar larvae of Spodoptera littoralis followed by spinosad (LC50 = 21.45 pg/m1), Dipel-2X (LC50 = 42.85 ?g/ml), milbeknock (LC50 = 65.08 ?g/ml) and soybean extract (LC50 = 170.51 pg/m1), respectively.Also, data showed that pleo was the superior insecticidal activity followed by spinosad, while Dipel-2X and milbeknock showed moderate activity. On the other hand, tested soybean, seed extract showed inferior larvicidal activity. Also, spinosad, Dipel-2X and soybean seeds extract caused significant increase in the total carbohydrates content of the 4th instar larvae of the cotton leafworm, and soybean seeds extract showed the same increasing effects on total soluble protein, while the remaining preparation did not cause any increase in total soluble protein content. The tested products caused significant decrease in the activity of acid phosphatase and amylase enzymes (except spinosad). The same was recorded with alkaline phosphate with the exception of soybean which showed significant increase onthe activity of this enzyme system. Spinosad caused increases in activity of a-esterase and I3-esterase. Pyridalyl, also, increased the activity of a and [3-esterase enzymes. Dipel-2X significantly decreased a-esterase while pleo caused significant increase in the activity of this enzyme system.Data also indicated that the five tested compounds significantly increased the activity of GPT, while the exception of Dipel-2X caused 50% decrease in GOT enzyme. Spinosad and pleo caused highly significant increase in trehalase activiy, while the other three compounds caused highly significant decrease in this enzyme activity. As for invertase activity spinosad greatly stimulated this enzyme, followed by pleo, while no effect on invertase occurred by Dipel-2X and milbeknock treatments.